

FIVE-MINUTE REFRESHER

Glycaemic management of type 2 diabetes

Consultant **Dr Tahseen Chowdhury** presents an overview of treatment options for diabetes

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Diet and lifestyle alone

HbA1c >48mmol/mol*

Metformin (modified release if sustained release not tolerated) Aim for <53mmol/mol

HbA1c >58mmol/mol*

First intensification

- Metformin + DPP-4 inhibitor or
- Metformin + pioglitazone or
- Metformin + sulfonylurea or
- Metformin + SGLT2 inhibitor

Aim for <53mmol/mol

HbA1c >58mmol/mol*

Second intensification

- Metformin + DPP-4 inhibitor + sulfonylurea or
- Metformin + pioglitazone + sulfonylurea or
- Metformin + pioglitazone + SGLT2 inhibitor or
- Metformin + sulfonylurea + SGLT2 inhibitor or
- Insulin-based treatment

Aim for <53mmol/mol

If metformin intolerant

- First line – DPP-4 inhibitor, pioglitazone or sulfonylurea
- Repaglinide can be considered, but outside of current licence
- First intensification with: DPP-4 inhibitor + pioglitazone Or DPP-4 inhibitor + sulfonylurea Or pioglitazone + sulfonylurea
- Second intensification with insulin-based treatment

Repaglinide 0.5-4mg with meals

- Can be used first line if metformin not tolerated or second line with metformin

If BMI <35kg/m² (33 in Asians), choose metformin + NPH insulin

HbA1c >58mmol/mol*

If BMI ≥35kg/m² (33 in Asians), or BMI <35 for whom insulin would have occupational implications, or if weight loss would benefit obesity-related comorbidities, choose metformin + sulfonylurea + GLP-1 agonist

DRUG DETAILS

Detemir/Glargine <ul style="list-style-type: none">• Consider if patient needs assistance to give insulin• Or has hypoglycaemia on human insulin• Or needs twice-daily NPH	DPP-4 inhibitor – sitagliptin 25-100mg per day, linagliptin 5mg per day <ul style="list-style-type: none">• Weight neutral• Linagliptin useful in renal disease• Use for six months and stop if ineffective	GLP-1 – exenatide 5-10µg bd, liraglutide 0.6-1.2mg od, lixisenatide 10-20µg od, exenatide LAR 2mg weekly, dulaglutide 0.75-1.5mg weekly <ul style="list-style-type: none">• Suitable if BMI	<35 (33 in Asians) and there are obesity-related comorbidities, or occupational concerns with insulin <ul style="list-style-type: none">• Nausea, diarrhoea common• Continue for more than six	months if 11mmol/mol reduction in HbA1c and 3% weight loss <ul style="list-style-type: none">• GLP-1 plus insulin only to be used with specialist care and advice from a consultant-led MDT	Insulin <ul style="list-style-type: none">• On starting offer structured programme• Start with NPH insulin once or twice daily• Biphasic or NPH + short acting if HbA1c >75mmol/mol• Biphasic with	short-acting insulin analogue if patient prefers injecting immediately before meal, or if hypos problematic or blood glucose rises after meals	Metformin 500-2,500mg per day <ul style="list-style-type: none">• Can be used in pre-diabetes, gestational diabetes, type 1 diabetes• Stop if eGFR <30, reduce if <45• Start slow, titrate, after meals	<ul style="list-style-type: none">• Modified release if sustained release not tolerated	Pioglitazone 15-45mg per day <ul style="list-style-type: none">• Avoid with heart failure, bladder cancer• Bone fracture reported• Weight gain• Oedema	SGLT2 inhibitor – canagliflozin 100-300mg, dapagliflozin 5-10mg per day, empagliflozin 10mg per day <ul style="list-style-type: none">• Consider dual or triple therapy or with insulin• Can aid weight loss	<ul style="list-style-type: none">• UTI and thrush common• Contraindicated in eGFR <45• Avoid with diuretics• Use for six months and stop if ineffective• Consider DKA if patient becomes acutely unwell	Sulfonylurea – gliclazide 40-320mg daily <ul style="list-style-type: none">• Effective, but care in elderly, especially with hypoglycaemia• Can cause weight gain
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*Consider relaxing the target HbA1c on a case-by-case basis in:

- People who are older or frail
- People with significant comorbidities such as cardiovascular disease or renal impairment